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| EXAMINER | |
|---|---|
| LIU, BEN H | |

| ART UNIT | PAPER NUMBER |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/800,518 | LIM ET AL. | |
| | Examiner | Art Unit | |
| | BEN H. LIU | 2616 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *June 27th, 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,6,9-11,17 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6,9-11,17 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. This is in response to an amendment/response filed on June 27th, 2008.

2. No claims have been amended.

3. No claims have been cancelled.

4. No new claims have been added.

5. Claims 1, 6, 9-11, and 17-18 are currently pending.

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1, 6, 9, 9-11, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harel et al. (U.S. Patent Publication 2004/0190548) in view of Wang et al. (U.S. Patent Publication 2004/0052274).

**For claim 1**, Harel et al. disclose a method for generating an optical network encapsulation frame structure in an optical network, the method comprising the steps of: i) receiving payload information of the frame to provide a control frame delivering management control information *(see paragraph 30, which recites a high-level data link control frame)*, ii) generating information representing data type information included in a payload according to payload information of the frame *(see paragraph 98, which recites generating PW type labels to identify the type of packets)*, iii) including information generated into a header of the frame and generating a new frame structure for determining a payload information of the frame through the header *(see paragraph 98, which recites encapsulated packets that identify the data type using the PW type label at the head of each packet)*, wherein information representing data type information included in the payload represents a data type of a payload of the frame and the is one of the control frame, a TDM (Time Division Multiplex) data frame or an Ethernet data frame

*(see paragraph 30 and figure 2, which recite encapsulating Ethernet, TDM, or high-level data link control frames).*

Harel et al. discloses a frame encapsulation method in a network using SONET/SDH. Harel et al. disclose all the subject matter of the claimed invention with the exception wherein the encapsulation method is used in a gigabit-capable passive optical network. Wang et al. from the same or similar fields of endeavor disclose a method for allocating bandwidth to transmit data in a Passive Optical Network that uses SONET/SDH *(see paragraphs 10 and 13)*. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use a Passive Optical Network such as gigabit-capable passive optical network as taught by Wang et al. to transmit encapsulated SONET/SDH frames as taught by Harel et al. The encapsulation method would produce a gigabit-capable passive optical network encapsulation method frame. The method for frame encapsulation can be implemented in a Passive Optical Network by installing the passive splitter 18 as taught by Wang et al. to process the synchronous optical network frames as taught by Harel et al. The motivation for using the gigabit-capable passive optical network as taught by Wang et al. to transmit encapsulated SONET/SDH frames as taught by Harel et al. is provide bandwidth allocation that enables the transmission of time sensitive data regardless of the limitations of the physical layer technology.

**For claim 6,** Harel et al. disclose a method for generating an optical network encapsulation frame structure in an optical network wherein the payload type information is represented by means of a reserved field, with no predetermined value in the header of the GEM frame *(see paragraph 98, which recites a PW type field)*.

**For claim 9**, Harel et al. disclose a method for generating an optical network encapsulation frame structure in an optical network wherein the payload type information is included in predetermined fields, having predetermined values in the header of the GEM frame, so that payload type information represents the data type of the payload of the GEM frame *(see paragraph 98, which recites a PW type field)*.

**For claim 10**, Harel et al. disclose a method for processing data in an optical network, the method comprising the steps of: i) checking whether or not a received frame is an ATM frame; ii) transmitting the received frame in an ATM cell transmission method if the received frame is identified as the ATM frame *(see paragraphs 27-30, which recite determining whether the data is synchronous ATM cells and selecting the appropriate encapsulation scheme)*; iii) deciding whether the received frame is a data frame; iv) transferring the received frame while displaying a payload type including a payload type information, which represents a data type of a payload of the frame in a predetermined field of a header of the frame thereof by performing a data encapsulation with respect to the received frame if the received frame is a data frame *(see paragraph 98, which recites generating PW type labels to identify the type of packets)*; and v) creating a control frame by using the received frame and transferring the control frame with representing the payload type thereof, if the received frame is not the data frame *(see paragraph 30, which recites a high-level data link control frame)*; wherein, the frame includes a frame header having a field representing that a payload of the GEM frame is a control frame, a TDM (Time Division Multiplex) data frame, or an Ethernet data frame, thereby representing the payload type *(see paragraph 30 and figure 2, which recite encapsulating Ethernet, TDM, or high-level data link control frames)*.

Harel et al. discloses a frame encapsulation method in a network using SONET/SDH. Harel et al. disclose all the subject matter of the claimed invention with the exception wherein the encapsulation method is used in a gigabit-capable passive optical network. Wang et al. from the same or similar fields of endeavor disclose a method for allocating bandwidth to transmit data in a Passive Optical Network that uses SONET/SDH *(see paragraphs 10 and 13)*. The method further supports processing ATM frames *(see paragraph 10)* at the optical line terminating (OLT) *(see paragraph 58 and figure 9)*. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use a Passive Optical Network such as gigabit-capable passive optical network as taught by Wang et al. to transmit encapsulated SONET/SDH frames as taught by Harel et al. The encapsulation method would produce a gigabit-capable passive optical network encapsulation method frame. The method for frame encapsulation can be implemented in a Passive Optical Network by installing the passive splitter 18 as taught by Wang et al. to process the synchronous optical network frames as taught by Harel et al. The motivation for using the gigabit-capable passive optical network as taught by Wang et al. to transmit encapsulated SONET/SDH frames as taught by Harel et al. is provide bandwidth allocation that enables the transmission of time sensitive data regardless of the limitations of the physical layer technology.

**For claim 11**, Harel et al. disclose a method for processing data in an optical network, wherein step iv) includes the sub-steps of: vi) checking a transmission method of the received frame if the received frame is the data frame; vii) performing a TDM data encapsulation with respect to the received frame and transferring the received frame with representing the payload type thereof, if the transmission method confirmed in step vi) is a TDM method; and viii)

performing an Ethernet data encapsulation with respect to the received frame and transferring the received frame with representing the payload type thereof, if the transmission method checked in step vi) is an Ethernet method *(see figure 2, which discloses encapsulation modules for TDM as well as Ethernet traffic)*.

**For claim 17**, Harel et al. disclose a method for processing data in a optical network, in which a encapsulated frame is received with representing a payload type of the frame including a payload type information, which represents a data type of a payload of the frame in a predetermined field a header of the frame for performing an operation according to a represented payload type: i) receiving a frame to check whether or not the received frame is an ATM (Asynchronous Transfer Mode) frame *(see paragraphs 27-30, which recite determining whether the data is synchronous ATM cells and selecting the appropriate encapsulation scheme)*; ii) checking information about a payload type included in a header of the received frame if the received frame is not the ATM frame *(see paragraph 98, which recites identifying the types of packets by reading the "PW type" label)*; and iii) processing the received frame depending on the payload type of the received frame, wherein the GEM frame includes a GEM frame header having a field representing that a payload of the GEM frame is one of a control frame, a TDM (Time Division Multiplex) data frame, or an Ethernet data frame, thereby representing the payload type of the GEM frame in the GEM frame header *(see paragraph 30 and figure 2, which recite encapsulating Ethernet, TDM, or high-level data link control frames)*.

Harel et al. discloses a frame encapsulation method in a network using SONET/SDH. Harel et al. disclose all the subject matter of the claimed invention with the exception wherein the encapsulation method is used in a gigabit-capable passive optical network. Wang et al. from

the same or similar fields of endeavor disclose a method for allocating bandwidth to transmit data in a Passive Optical Network that uses SONET/SDH *(see paragraphs 10 and 13)*. The method further supports processing ATM frames *(see paragraph 10)* at the optical line terminating (OLT) *(see paragraph 58 and figure 9)* and optical network terminal (ONT) network devices *(see paragraph 56 and figure 8)*. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use a Passive Optical Network such as gigabit-capable passive optical network as taught by Wang et al. to transmit encapsulated SONET/SDH frames as taught by Harel et al. The encapsulation method would produce a gigabit-capable passive optical network encapsulation method frame. The method for frame encapsulation can be implemented in a Passive Optical Network by installing the passive splitter 18 as taught by Wang et al. to process the synchronous optical network frames as taught by Harel et al. The motivation for using the gigabit-capable passive optical network as taught by Wang et al. to transmit encapsulated SONET/SDH frames as taught by Harel et al. is provide bandwidth allocation that enables the transmission of time sensitive data regardless of the limitations of the physical layer technology.

**For claim 18**, Harel et al. disclose all the subject matter of the claimed invention with the exception of treating the received frame as an error, if the received frame is the ATM frame. However, Harel et al. recite identifying the different types of traffic by reading the "PW type" label. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to provide a specific PW type label to identify ATM frames as an error. When an ATM frame arrives, the network can easily identify it and process it accordingly. The motivation for providing a specific PW type able for ATM frames is to improve the efficiency of

the system by allowing the network to process ATM frames separately from other types of traffic.

***Response to Arguments***

10. Applicant's arguments, filed June 27th, with respect to the rejection(s) of claim(s) 1, 6, 9-11, and 17-18 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made over Harel et al. (U.S. Patent Publication 2004/0190548) in view of Wang et al. (U.S. Patent Publication 2004/0052274).

11. It is noted that Applicant's amendment filed on January 2nd, 2008 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, this action is made final.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *(See form PTO 892).*

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BEN H. LIU whose telephone number is (571)270-3118. The examiner can normally be reached on 9:00AM to 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on (571) 272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2616

BL